

WHAT IS CLAIMED IS:

1. An optical modulation element capable of forming a reflective diffraction grating in which heights of a plurality of elements each having a reflecting surface periodically change,

wherein the reflecting surfaces of at least one of the plurality of elements are driven in a direction of height by piezoelectric elements.

2. An element according to claim 1, wherein the plurality of elements each having the reflecting surface are two-dimensionally arrayed by juxtaposing long sides.

3. An element according to claim 1, wherein said plurality of elements are respectively provided with the piezoelectric elements the polarities of electric fields of which are alternately different from each other.

4. An element according to claim 3, wherein a rear surface side of an effective reflecting portion of each of the elements is fixed to the piezoelectric element.

5. An element according to claim 1, wherein a deformation amount of a projecting or recessed shape of

each element is changed by adjusting a voltage to be impressed to the piezoelectric element, thereby controlling an intensity of reflected light.

5           6. An element according to claim 1, wherein when the reflecting surfaces of the plurality of elements are substantially flush with each other, said reflecting surfaces act as a flat mirror as a whole.

10           7. An element according to claim 1, wherein each of the elements is a strip-shaped element having a width of about 5  $\mu\text{m}$ .

15           8. ~~An element according to claim 1, wherein an interval between adjacent elements is minimized as much as possible.~~

20           9. An element according to any one of claims 1 to 8, wherein pixels each formed from the plurality of elements are arranged in a two-dimensional array.

10. A projection apparatus including an optical modulation element for modulating incident light in accordance with a video signal,

25           wherein the optical modulation element is formed from said optical modulation element of any one of claims 1 to 9.